

The Quartz Flat Hazardous Fuels Reduction Project – an example of Vegetation Management & Restoration on the Lolo National Forest

The text and photos below show the outcomes associated with Lolo National Forest fuel reduction projects. The photos especially illustrate the changed condition of the site after project work, where forests have been restored to a more natural condition, with less crowding and fuel, and less potential for high intensity fire.

The Quartz Flat Hazardous Fuels Reduction project was designed to reduce hazardous fuels conditions by restoring relatively open forest conditions consistent with dry forests that historically experienced frequent low intensity wildfires. This area is located in the Wildland Urban Interface (WUI) with private ownership, structures, and associated infrastructure bordering the treatment area. Adjacent landowners requested fuels treatments in this area. District personnel agreed that stand conditions and fuel arrangements could be managed to reduce severe fire effects, increase the efficiency of initial attack fire suppression by firefighters, and restore the forest to more resilient conditions. An Improvement Cut followed by slashing and prescribed burning was determined to be the best treatment option.

Prior to treatment, the area had three distinct cohorts of age groups. There was a multi-aged overstory of ponderosa pine, Douglas-fir, and some western larch. The mid-story was comprised of younger suppressed ponderosa pine, Douglas-fir, and western larch with poor form and low crown ratios. The understory was Douglas-fir regeneration.

After treatments were completed, the multi-aged overstory of ponderosa pine, Douglas-fir, and western larch remained. The mid-story was thinned to reduce crown fire potential, reduce competition, and improve health of the stand. The Douglas-fir regeneration in the understory was reduced by more than 90% which greatly reduced the ladder fuels component leading to crown fires.

Pre-Treatment



Without the periodic disturbances of low severity fires, the overstory has become crowded and the mid-story and Douglas-fir regeneration have provided a consistent ladder of fuel capable of carrying ground fire up through the foliage to the overstory crowns. The resulting potential crown fire could kill many of the overstory trees that have survived many low intensity fires in the past.

Post-Logging



The Improvement Cut has lightly thinned the overstory and mid-story to create openings between the crowns that reduce the potential for active crown fires while retaining the larger, fire-tolerant trees for long term resilience.

Post-Logging & Slashing



The slashing has selectively reduced a portion of the ladder fuels, which significantly reduced the potential for ground fires to climb into the overstory crowns.

Post-Logging, Slashing, & Burning



The low intensity prescribed burn has consumed most of the fuel less than three inches in diameter, reduced additional ladder fuels, raised crown base heights on remaining live trees, and reintroduced fire to the site. The resulting stand still has all the components of the pre-treatment stand, but the smaller trees have their numbers dramatically reduced. The stand conditions are now more sustainable, resilient, and healthy.